

PAPERS READ.

PLANTS OF NEW SOUTH WALES—No. II.

BY THE REV. DR. WOOLLS, D.D., F.L.S., &c.

Series III. CALYCIFLORÆ, (*Polypetalæ*).

Of this grand division of plants, which are generally characterized by having the stamens and petals inserted on the margin of a thin disk, the order *Leguminosæ* is by far the most extensive, comprehending in this colony 52 genera and 279 species, exclusive of those which are not indigenous. Amongst the 92 genera common to other parts of Australia, 29 of the *Papilionacæ*, 6 of the *Cæsalpiniciæ*, and 5 of the *Mimosæ* do not occur in N. S. Wales. Comparing the leguminous plants of Victoria and Queensland (so far as recorded in the *Flora*) with those of this colony, they stand in the following order :

		Genera.		Species.
Queensland 73	..	254
New South Wales 52	..	279
Victoria 29	..	153

Whils, therefore, the genera increase considerably in proceeding from Victoria to the Northern parts of Australia, the species, as yet known, do not increase proportionally. As, however, N. S. Wales and Victoria have been more carefully examined than the interior of Queensland, it is highly probable that many species yet remain to be added to the Flora of the latter. The genera, perhaps, may admit of little alteration. By the following list, it will be seen, that of the genera not represented in N. S. Wales, the greater part occur in Queensland, and are common to India.

1. PAPILIONACEÆ.

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| 1. <i>Jansonia</i> , W.A. | 4. <i>Burtonia</i> , Q.L., W. and N.A. |
| 2. <i>Brachysema</i> , W. and N.A. | 5. <i>Gastrolobium</i> , Q.L., W.A. |
| 3. <i>Isotropis</i> , Q.L., W. and N.A. | 6. <i>Latrobea</i> , W.A. |

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| 7. <i>Pentadynamis</i> , S.A. | 19. <i>Erythrina</i> , Q.L., N.A. & (I.) |
| 8. <i>Rothia</i> , N.A. and (I.) | 20. <i>Phascolus</i> , Q.L., N.A. and (I.) |
| 9. <i>Ptychosema</i> , W.A. | 21. <i>Dolichos</i> , N.A., and (I.) |
| 10. <i>Lamprobium</i> , Q.L. | 22. <i>Dunbaria</i> , Q.L., and (I.) |
| 11. <i>Omocarpum</i> , Q.L., (I.) | 23. <i>Atylosia</i> , Q.L., N.A., & (I.) |
| 12. <i>Æschynomene</i> , Q.L. and N.A. | 24. <i>Eriosema</i> , Q.L., N.A., & (I.) |
| 13. <i>Smithia</i> , Q.L. and (I.) | 25. <i>Flemingia</i> , Q.L., N.A., & (I.) |
| 14. <i>Pycnospora</i> , Q.L., and (I.) | 26. <i>Abrus</i> , Q.L., N.A., and (I.) |
| 15. <i>Uraria</i> , Q.L., N.A., and (I.) | 27. <i>Dalbergia</i> , Q.L., and (I.) |
| 16. <i>Lourea</i> , N.A., and (I.) | 28. <i>Pongamia</i> , Q.L., N.A., & (I.) |
| 17. <i>Alysicarpus</i> , N.A., and (I.) | 29. <i>Barklya</i> , Q.L. |
| 18. <i>Clitoria</i> , N.A. and (I.) | |

2. CÆSALPINEÆ.

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| 1. <i>Guilandia</i> , Q.L., and (I.) | 4. <i>Labichea</i> , N.A., and (I.) |
| 2. <i>Pterolobium</i> , Q.L., and (I.) | 5. <i>Tamarindus</i> , N.A., and (I.) |
| 3. <i>Peltophorum</i> , Q.L., and (I.) | 6. <i>Cynometra</i> , Q.L., and (I.) |

3. MIMOSEÆ.

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| 1. <i>Erythrophlœum</i> , Q.L., & (I.) | 4. <i>Adenanthera</i> , N.A., and (I.) |
| 2. <i>Entada</i> , Q.L., and (I.) | 5. <i>Albizzia</i> , Q.L., W., N.A. & (I)* |
| 3. <i>Dichrostachys</i> , N.A., and (I.) | |

From this list, it will be seen that the Leguminous plants of East Queensland, as Mr. Bentham remarks, have an East Asiatic character, though there are many genera which it has in common with New South Wales. On the other hand, of the 53 genera found in Victoria, there are 20 common to New South Wales and Tasmania. The genus *Acacia* is not only the largest of the Leguminosæ, but of all the phanerogamous genera, containing upwards of 300 species, for Baron F. von. Mueller has described several new species since the publication of the second volume of our Flora. Of these Tasmania has 17, Victoria 55,

*Q.L.=Queensland; W. and N.A.=West and North Australia; I.=India.

New South Wales 87, and Queensland 61. These numbers need careful revision, especially in the last colony, but nevertheless they give an approximate idea of the great extent and geographical distribution of the species generally. It is worthy of remark that only one (*A. Farnesiana*) is common to tropical countries of the Old and New World, whilst with the exception of a few species in New Caledonia, the Indian Archipelago, and the Pacific Islands, nearly all the forms described in the *Flora Australiensis* are truly endemic. *A. decurrens* (the common Wattle), one of the most widely distributed species, extends from Tasmania, through South Australia, Victoria, and New South Wales into Queensland. Whilst *A. longifolia*, in one form or other, has a similar range. So far as New South Wales is concerned, the genus *Acacia* imparts a peculiar character to the vegetation; and in the far interior many of the plains derive a name from the frequent occurrence of *A. pendula* and *A. homolophylla*. The species, being for the most part harsh in their foliage and capable of enduring a very high temperature, seem peculiarly adapted for such localities; and, as appears from the occurrence of the genus in Tasmania, some species can endure a considerable amount of cold.

Whilst, however, certain alpine plants connect the Flora of N. S. Wales, Victoria, and Tasmania with that of New Zealand, the genus *Acacia* is not represented there, nor, according to the *Flora Australiensis*, do any forms of our Leguminosæ extend in that direction and to South America, excepting *Lophora*. Mr. Bentham, in taking a review of the Leguminosæ generally, states, that "of the 92 Australian genera, 33 are dispersed over the warmer regions of the Old and New World, of 20 other tropical genera, 13 are in Africa and Asia but not in America, 2 in America and Asia, but not in Africa, 4 in Asia alone, 1 (*Erythrophleum*) only in Africa; 4 more of the Australian genera belong to the temperate regions of the Northern Hemisphere, 1 (*Clianthus*) extends only to New Zealand, and 34 are endemic in

Australia." Of those endemic, 22 genera are represented in N. S. Wales, 17 in Victoria, and 25 in Queensland, thus showing that whilst the Flora of the last has many affinities with that of India, it has also numerous forms peculiar to the continent of Australia. On the whole, the *Leguminosæ* form the most extensive order in N. S. Wales, and next to the *Myrtaceæ*, it is the most important when considered in relation to industrial and medicinal properties. Some of the species have already obtained a place in the Pharmacopœia, and when the Medical Botany of Australia becomes more thoroughly investigated, it will be found that N. S. Wales affords in her *Leguminosæ* many valuable remedies. Some are known to be highly injurious to sheep and cattle, especially in dry and unfavourable seasons. Such are some of the *Swainsonias*; but those genera which have done the most mischief do not extend to New South Wales, but appear to be most abundant in Western and North-eastern Australia.

With regard to the introduced species of the Order, they are not numerous. The following is a list of them :

1. *Argyrolobium Andrewsianum*, (Stend.)
2. *Medicago sativa*, (Linn.)
3. *M. denticulata*, (Willd.)
4. *M. lupulina*, (Linn.)
5. *M. minima*, (Willd.)
6. *Trifolium pratense*, (Linn.)
7. *T. repens*, (Linn.)
8. *Vicia hirsuta*, (Koch.)
9. *V. sativa*, (Linn.)
10. *Ulex Europæus*, (Willd.)
11. *Cajanus bicolor*, (Dec.)

These plants have established themselves for the most part in the Southern districts of the colony, for *Cajanus bicolor*, or the Pigeon-Pea alone seems limited to the Northern districts and Queensland. *Medicago denticulata* grows abundantly in moist

flats or near rivers, and beyond the Dividing Range. it is valuable for pasture, although injurious to cattle when they feed too ravenously on it. It is no uncommon thing to see beasts swollen to a large size and lying dead from the effects of the so-called "Trefoil." The burs of this plant are also very annoying in sheep-farming, as they adhere tenaciously to the fleeces and render the wool less valuable. *Melilotus parviflora*, sometimes called "Scented Trefoil," is a great pest in wheat-fields, and imparts an aromatic flavour to flour. *Trifolium repens*, or Dutch Clover is very widely spread in some parts of New South Wales, and forms, as it is termed "an excellent bottom in pastures." It is said that a single seedling will cover more than a yard square of ground in one season, whilst the plant generally affords abundance of succulent stalks and leaves when the grasses perish.

DESCRIPTION OF A NEW BULIMUS FROM NEW CALEDONIA.

BY J. BRAZIER, C.M.Z.S., &c.

**BULIMUS ROSSITERI*, *n. sp.*

Shell imperforated, oblong-ovate, rather thick, light brown, covered with a horny reddish-chestnut periostraca, longitudinally somewhat rugosely striate, suture crenulated, encircled with a white narrow band; spire moderately elevated, convexly conoid, obtuse, about half the length of the shell, first three whorls decorticated, whorls six, moderately convex, the last large; aperture oblong ovate, subvertical, orange-red within; peristome rather thickened, more or less reflected; columella slightly expanded with a small oblique compressed fold extending over on to the body whorl in a thick callus plate and joined to the upper part of the aperture; peristome and columella bright orange red.

*Type specimen deposited in the Museum of the Academy of Natural Sciences, Philadelphia.